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Path schemas in gesturing for thinking and teaching

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In my research I explore the functions of gesture in everyday cognitive activities and in instruction. In previous work (Williams 2008) I described how a teacher's gestures guide conceptual mapping, linking elements in different mental spaces and associating conceptual entities with structures in the environment. While exploring these functions I noted briefly that some of the gestures add image-schematic structure to the conceptualization. In each example this image-schematic structure involved a path of motion. In the present paper I explore the relationship between path schemas and gestures in more detail.

Cognitive linguists have argued that motion is conceptualized in terms of the SOURCE-PATH-GOAL image schema (Johnson 1987; Lakoff & Johnson 1999; see also contributions to Hampe 2005). The *source* is the origin or starting point for motion, the *path* is the series of contiguous locations occupied by the moving object, and the *goal* is the destination or endpoint of motion. The moving object is the *trajector*, and at any given moment during the motion event the trajector occupies some position along the path. Because the conceptualization of any process involves motion—even if only metaphorical motion from one state to another (Lakoff 1993)—the SOURCE-PATH-GOAL image schema provides important underlying structure for thought and communication.

The SOURCE-PATH-GOAL image schema is also intimately related to gesture. Unlike speech, gestures directly embody motion through space; this makes them especially well suited to depicting paths of motion in the speaker's conceptualization. We therefore expect path schemas to motivate gestures and to partially structure their form. I will show examples of path schemas embodied in gestures taken from studies of counting (Williams 2007) and time-telling instruction (Williams 2004, 2008). In some examples the gesture serves only the speaker, playing a functional role in solving the problem at hand; this is gesturing for thinking (in the sense of Smith 2007). In other examples, the gesture is directed toward others and plays a functional role in shaping the listener's conceptualization and aligning it with the speaker's. This is gesturing for communicating—or, more specifically, gesturing for teaching (since the gestures produced during instruction may be more deliberate than those produced in ordinary conversation).

In the teaching examples, the path structure that appears in the gesture is sometimes incidental, reflecting an aspect of the speaker's conceptualization that is not the focus of discourse. Listeners may or may not apprehend this structure or incorporate it into their own conceptualization. At other times, the path structure is critical to understanding. Listeners must apprehend the structure and incorporate it into their own conceptualization for the communication to succeed, even when the structure is not highlighted in speech. This is especially important (and problematic) during instruction because a path of motion related to the activity may not be well established in the learners' conceptual repertoire.

The examples provide evidence of SOURCE-PATH-GOAL conceptual structure emerging in gestures for thinking and gestures for teaching, supporting the idea that image schemas help motivate and shape gestures for both cognitive and communicative purposes.

References

Hampe, B. (ed.) (2005). *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Edited in cooperation with J. Grady. Berlin/New York: Mouton de Gruyter.

Johnson, M. (1987). *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.

Lakoff, G. (1993). The contemporary theory of metaphor. In A. Ortony (ed.), *Metaphor and Thought (2nd Edition)*, pp. 202-251. Cambridge: Cambridge University Press.

Lakoff, G., & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.

Smith, N. (2007). Gesture without interaction: Cognitive uses for a communicative capacity. Paper presented at the 3rd International Conference of the International Society for Gesture Studies, Chicago.

Williams, R. F. (2004). *Making Meaning from a Clock: Material Artifacts and Conceptual Blending in Time-Telling Instruction*. Ph.D. dissertation, University of California, San Diego.

Williams, R. F. (2007). Counting and conceptual blending. Paper presented at the 10th International Cognitive Linguistics Conference, Krakow.

Williams, R. F. (2008). Gesture as a conceptual mapping tool. In A. Cienki & C. Müller (eds.), *Metaphor and Gesture (Gesture Studies 3)*, pp. 55-92. Amsterdam/Philadelphia: John Benjamins.